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| 10/802,269 | 03/17/2004 | Hideji Tajima | 10287.62 | 4205 |

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EXAMINER

REIFSNYDER, DAVID A

ART UNIT PAPER NUMBER

1723

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,269

Applicant(s)

TAJIMA, HIDEJI

Examiner

David A Reifsnyder

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/898,762.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/25/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continuing Data

The continuing data in the related-applications section (i.e. page 1, 1st paragraph) of the specification needs to be updated.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1; the recitation of "separating the magnetic particles by exerting a magnetic field from outside of a liquid passage to the inside of the liquid passage to thereby attract the magnetic particles to an inner wall of the liquid passage, at a time of passing a suspension having a first volume and in which the magnetic particles which have captured a target substance of suspended, through the liquid passage" does not make sense. Furthermore, it is vague and indefinite as to whether the suspension in the "passing a suspension having a first volume" is the same suspension as the earlier claimed suspension. (i.e. the suspension in which the target substance is captured) In addition, the recitation of re-suspending the magnetic particles which have captured the target substance in the suspension by passing a liquid having a second volume smaller than the first volume of the suspension through

the liquid passage in which the magnetic particles which have captured the target substance have been separated, **in a state with the magnetic field not exerted on the liquid passage**” does not make sense as to how the magnetic particles which have captured the target substance in the suspension are resuspended. (i.e., the recitation of “in a state with the magnetic field not exerted on the liquid passage” can not be understood) Furthermore the recitation of “the suspension” is vague and indefinite as to whether “the suspension” is the suspension having a first volume or a suspension created by the passing a liquid having a second volume smaller than the first volume of the suspension through the liquid passage in which the magnetic particles which have captured the target substance have been separated. Furthermore, the recitation “**eluting** the target substance from the magnetic particles which have captured the target substance suspended in the liquid, of and **separating** only the magnetic particles” can not be understood because “**eluting** the target substance from the magnetic particles” means the same thing as **separating** the target substance from the magnetic particles.

Regarding claim 2; the recitation of “a first volume of suspension” is vague and indefinite as to whether that first volume of suspension is the same as the first volume of suspension claimed in claim 1. In addition, the recitation of “a second volume of suspension” is vague and indefinite as to whether that second volume of suspension is the same as the second volume of suspension claimed in claim 1. Furthermore, the second recitation of “a container” is vague and indefinite as to whether that container is the same container as the first claimed container. Lastly, the recitation of “and passing

the suspension through the liquid passage, with the magnetic field exerted from outside of the liquid passage, to thereby attract the magnetic particles to the inner wall of the liquid passage" is confusing because it was already claimed in claim 1 and is redundant.

Regarding claim 3; the recitation of "a first volume of suspension" is vague and indefinite as to whether that first volume of suspension is the same as the first volume of suspension claimed in claim 1. Also, since the liquid passage of claim 1 appears to do the same function as the liquid discharge passage, it is vague and indefinite as to how the instantly claimed "liquid discharge passage" is structurally related to the "liquid passage" of claim 1. Furthermore, the second recitation of "a container" is vague and indefinite as to whether that container is the same container as the first claimed container. In addition, the recitation of "the second volume being smaller than the first volume of suspension" is confusing because it was already claimed in claim 1 and is redundant. Lastly, the recitation of "without exerting a magnetic field." is confusing because it was claimed in claim 1 and is redundant.

Regarding claim 4; the recitation of "the passage" lacks antecedent basis. Furthermore, the second recitation of "a magnetic field" is vague and indefinite as to whether that magnetic field is the same as the first claimed magnetic field.

Regarding claim 5; the recitation of "a container" is vague and indefinite as to whether that container is the same container as either of the containers of claim 2. Furthermore, the second recitation of "a magnetic field" is vague and indefinite as to whether that magnetic field is the same as the first claimed magnetic field.

Regarding claim 6; the recitation of "a container" is vague and indefinite as to whether that container is the same container as either of the containers of claim 3. Furthermore, the second recitation of "a magnetic field" is vague and indefinite as to whether that magnetic field is the same as the first claimed magnetic field.

Regarding claim 7; the recitation of "with a magnetic field exerted on the liquid passage from the outside" is confusing because it was claimed in claim 1 and then again in claim 2, and is doubly redundant.

Regarding claim 8; the recitation of "a second container to a first container" is vague and indefinite as to whether the first container of the second container is the same as either of the containers claimed in claim 2. Furthermore, the recitation of "with a magnetic field exerted on the liquid passage from the outside" is confusing because it was claimed in claim 1, and is redundant.

Regarding claim 9; the recitation of "a second container to a first container" is vague and indefinite as to whether either the first container of the second container is the same as either of the containers claimed in claim 3. Furthermore, the recitation of "with a magnetic field exerted on the liquid passage from the outside" is confusing because it was claimed in claim 1, and is redundant.

Regarding claim 10; the recitation of "a second container to a first container" is vague and indefinite as to whether either the first container of the second container is the same as the container claimed in claim 4. Furthermore, the recitation of "with a magnetic field exerted on the liquid passage from the outside" is confusing because it was claimed in claim 1, and is redundant.

Regarding claim 11; the second recitation of "a liquid discharge passage" is vague and indefinite as to whether that discharge passage is the same as the first claimed discharge passage. Furthermore, since the liquid passage of claim 1 appears to do the same function as the liquid discharge passage, it is vague and indefinite as to how the instantly claimed "liquid discharge passage" is structurally related to the "liquid passage" of claim 1.

Regarding claim 12; the recitation of "a second container to a first container" is vague and indefinite as to whether either the first container of the second container is the same as either of the containers claimed in claim 2. Furthermore, the second recitation of "a liquid discharge passage" is vague and indefinite as to whether that discharge passage is the same as the first claimed discharge passage. In addition, since the liquid passage of claim 1 appears to do the same function as the liquid discharge passage, it is vague and indefinite as to how the instantly claimed "liquid discharge passage" is structurally related to the "liquid passage" of claim 1.

Regarding claim 13; the recitation of "a second container to a first container" is vague and indefinite as to whether either the first container of the second container is the same as either of the containers claimed in claim 3. Furthermore, the second recitation of "a liquid discharge passage" is vague and indefinite as to whether that discharge passage is the same as the first claimed discharge passage. In addition, since the liquid passage of claim 1 appears to do the same function as the liquid discharge passage, it is vague and indefinite as to how the instantly claimed "liquid discharge passage" is structurally related to the "liquid passage" of claim 1.

Regarding claim 14; the recitation of "a second container to a first container" is vague and indefinite as to whether either the first container or the second container is the same as the container claimed in claim 4. Furthermore, the second recitation of "a liquid discharge passage" is vague and indefinite as to whether that discharge passage is the same as the first claimed discharge passage. In addition, since the liquid passage of claim 1 appears to do the same function as the liquid discharge passage, it is vague and indefinite as to how the instantly claimed "liquid discharge passage" is structurally related to the "liquid passage" of claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tajima, or JP 10-32687.

Regarding claim 1; Tajima or JP 10-32687 disclose a concentration method using magnetic particles comprising: capturing a target substance in a first volume of suspension with magnetic particles; separating the magnetic particles which have captured the target substance in the first volume of suspension by exerting a magnetic field from the outside of a liquid passage to the inside of the liquid passage while passing the first volume of the suspension in which the magnetic particles which have captured the target substance are suspended through the liquid passage, to thereby attract the magnetic particles to an inner wall of the liquid passage; re-suspending the separated magnetic particles which have captured the target substance by removing the magnetic field from outside the liquid passage to inside the liquid passage while passing a liquid having a second volume through the liquid passage; eluting the target substance from the magnetic particles which have captured the target substance suspended in the liquid; and removing only the magnetic particles to obtain a suspension in which the target substance is concentrated.

Regarding claim 1; Tajima or JP 10-32687 fails to disclose that his second liquid has as smaller volume than his first volume of suspension. Tajima or JP 10-32687 teaches a concentration method; therefore, it is considered that it would have been obvious to one having ordinary skill in the art at the time of the invention that Tajima's or JP 10-32687's second liquid have a smaller volume than their first volume of suspension.

Allowable Subject Matter

Claims 2-14 ***appear*** like they would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

While claims 2-14 ***appear*** to be allowable over the prior art of record due to the numerous 35 USC 112 2nd paragraph problems with all of the claims it is impossible to tell for certain that when claims 2-14 are written to satisfy 35 USC 112 2nd paragraph that they will be allowable over the prior art of record. Therefore, at the present time the Examiner is not able to state on the record why claims 2-14 are allowable over the prior art of record . If the applicant corrects the 35 USC 112 2nd paragraph problems with claims 2-14 it is requested that he states on the record why the amended claims are allowable.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

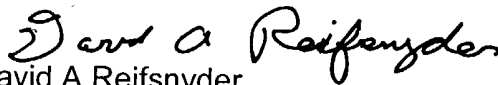
Translation of JP 10-332687 A which is published on 12-1998

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Reifsnyder whose telephone number is (571) 272-1145. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda M Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David A Reifsnyder
Primary Examiner
Art Unit 1723

DAR